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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,499	08/01/2001	Bobwen Zhont Kong	TESSERA 3.0-228	7119
530 7590 01/16/2004 LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			EXAMINER UMEZ ERONINI, LYNETTE T	
			ART UNIT 1765	PAPER NUMBER

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 09/920,499	Applicant(s) KONG ET AL.	
Examiner Lynette T. Umez-Eronini	Art Unit 1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/12/03.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-72 is/are pending in the application.
- 4a) Of the above claim(s) 10-30 and 37-72 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 31-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s): _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>8/1/2001</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of claims 1-9 and 31-36 in Amendment of 11/12/03 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 2, 5-8, 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh (US 5,478,462) in view of George (US 3,725,150).

Walsh teaches, "Ten 4 inch by 6 inch prepunched sheets of 200VN Kapton polyimide film were immersed for one minute with no agitation in the one-phase etchant solution comprising 35.5 wt. % KOH as (45% w/w), 10.6 wt % ethylenediamine, 10.6 wt. % ethylene glycol, the remaining water" (column 14, line 33-37). "The alkali metal hydroxide can comprise potassium hydroxide, . . . The concentration of hydroxide is between about 25 and 50 % by weight and preferably between about 25 and 50 percent by weight. The concentration of diamine . . . is between about 5 and 20 percent by weight, preferably between about 8 and 12 percent by weight. The concentration of the glycol compound is . . . between about 5 and 20 percent by weight, preferably between 8 and 12 percent by weight" (column 9, lines 17-31). The aforementioned reads on,

A composition for etching a polymer substrate comprising a dihydric alcohol having from two to five carbon atoms, a hydroxide compound selected from the group consisting of lithium hydroxide, sodium hydroxide, potassium hydroxide, calcium hydroxide, barium hydroxide, strontium hydroxide and mixtures thereof, and water, **as in claim 1;**

wherein said dihydric alcohol comprises glycol and said hydroxide comprises potassium hydroxide, **as in claim 2.**

wherein said hydroxide compound is present in an amount of from about 40 to about 80 grams per 100 ml of dihydric alcohol and water solution, **as in claim 5;**

wherein said hydroxide compound is present in an amount of from about 40 to about 80 grams per 100 ml of dihydric alcohol and water solution, **as in claim 6;**

wherein said water comprises deionized water, **as in claim 7;**

A composition for etching a polymer substrate comprising glycol, potassium hydroxide and deionized water, wherein said potassium hydroxide is present in an amount of from about 40 to about 80 grams per 100 ml of glycol and water solution, **as in claim 8;** and

wherein said substrate comprises a polyimide substrate, **in claims 35 and 36.**

Walsh differs in failing to teach wherein said dihydric alcohol and said water are present in a ratio of from about 0.5:1 to about 8.5:1, **in claims 1 and 8;**

said composition has a boiling point in the range of from about 240°F. to about 300°F and 260°F to about 280°F, respectively **in claims 31-32 and 33-34.**

George teaches, "It is within the knowledge of persons skilled in the art to control the extent of the etch by manipulating the parameters of concentration, time of exposure and temperature appropriate to the etchant selected" (column 3, lines 30-34), which provides evidence that manipulating (varying) the etchant temperature is a so-called "result effective variable."

It is the examiner's position that it would have been obvious to one having ordinary skill in the art at the time of the claimed invention to modify Walsh's composition "... to control the extent of the etch by manipulating the parameters of concentration, ... and temperature appropriate to the etchant selected" as taught by George, since it has been held that discovering an optimum value of a result effective

variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 5205 USPQ 215) CCPA 180).

5. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh ('462) in view of George ('150) as applied to claim 1 and 8 respectively above, and further in view of Glenning et al. (US 4,857,143).

Walsh in view of George differs in failing to teach an inhibitor selected from the group consisting of NaF, CH_3COONa , CH_3COOK , K_2CO_3 , Na_2CO_3 , K_3PO_4 , hexamethylene tetramine, and mixtures thereof, in claims 3 and 9.

Glenning teaches, "exposed polyimide is etched such as using a solution at least about 3 molar in potassium hydroxide and at least about 0.5 molar in potassium carbonate" (Abstract), which is the same as applicant's inhibitor as claimed in the present invention.

It is the examiner's position that it would have been obvious to one having ordinary skill in the art at the time of the claimed invention to modify Walsh's etchant by adding potassium carbonate as taught by Glenning for the purpose of reducing the undercutting of a resist pattern on the polyimide (Abstract).

Response to Arguments

6. Applicant's arguments with respect to claims 1, 2, 4-8, 35, and 36 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 11/12/03 have been fully considered but they are not persuasive. Applicants argue the claimed etch composition is intended to form vias in a polymer substrate. Applicants' argument is unpersuasive because No patentable weight is given to the phrase, "A composition for etching a polymer substrate . . ." Likewise the intended use of composition is not patentably significant. *In re Albertson* 141 USPQ 730 (CCPA 1964); *In re Heck* 114 USPQ 161 (CCPA 1957).

Applicants argue Walsh (US fails to show an unexpected result such as and etch end point color signal, i.e., red when the amount of hydroxide base ranges from 40 – 80 grams per 100 ml of glycol/water and contact pad blistering when the ratio of glycol to water is less than 0.5:1. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., etch end point color signal, i.e., red when the amount of hydroxide base ranges from 40 – 80 grams per 100 ml of glycol/water and contact pad blistering when the ratio of glycol to water is less than 0.5:1) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynette T. Umez-Eronini whose telephone number is 571-272-1470. The examiner is normally unavailable on the First Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-0223.

ltue

January 6, 2003

SUPERVISOR
NADINE G. NORTON
PRIMARY EXAMINER
